

AMENDMENTS TO THE CLAIMS

Please replace all prior versions and listings of claims with the following listing of claims.

1. (Currently Amended) A method [[far]] for treating a surface of a substrate using an apparatus including:

a housing having a first housing part and a second housing part;

a process chamber defined by the housing and configured to accommodate the substrate;

a cascade source connected to the first housing part and having a prechamber, a cathode located in the prechamber, a channel that connects the prechamber with the process chamber, and mutually electrically insulated cascade plates that bound the channel;

a bellows configured to couple the first housing part with the second housing part in a moveably and gastight manner so that the cascade source is movable relative to the second housing part and the process chamber;

a first motor arranged outside of the process chamber and configured to rotate the first housing part relative to the second housing part around a first axis substantially parallel to the substrate surface; and

a second motor arranged outside of the process chamber and configured to rotate the first housing part relative to the second housing part around a second axis substantially parallel to the substrate surface, wherein the second axis is substantially perpendicular to the first axis,

the method comprising:

placing a substrate having the substrate surface in the process chamber;

pressurizing the prechamber to a pressure that is higher than the pressure in the process chamber;

generating a plasma plume using the cascade source such that the plasma extends via the channel into the process chamber for treating the substrate surface; and

moving the cascade source and the plasma plume relative to the substrate surface while treating the substrate surface by controlling one or both of the first and the second motors so as to rotate the first housing part with the cascade source around one or both of the first and the second axes relative to the second housing part.

wherein the substrate is placed in a process chamber and a plasma is generated by a plasma source, the plasma source being a cascade source, wherein a cathode of the cascade source is present in a prechamber in which, during use, a relatively high pressure prevails compared to a relatively low pressure prevailing in the process chamber, wherein, via a channel bounded by mutually electrically insulated cascade plates, the prechamber opens into the process chamber, such that, during use, the plasma extends via the channel into the process chamber, the method comprising, during the treatment, moving the plasma source and/or a treatment fluid supply source relative to the substrate surface.

2. (Cancelled)
3. (Currently Amended) A method according to claim 1, wherein the plasma cascade source and/or the treatment fluid supply source is moved in a direction towards the substrate surface or away from it.
4. (Currently Amended) A method according to claim 1, wherein the plasma cascade source and/or the optional treatment fluid supply source is moved in at least one lateral direction relative to the substrate surface.
5. (Currently Amended) A method according to claim 1, wherein the plasma cascade

source ~~and/or the treatment fluid supply source~~ is rotated about an axis extending perpendicularly relative to the substrate surface.

6. (Original) A method according to claim 1, wherein a treatment fluid is added to the plasma.

7. (Currently Amended) A method according to claim 6, wherein the amount of treatment fluid to be added to the plasma is related to the movement of the ~~plasma~~ cascade source.

8. (Currently Amended) A method according to claim 6, wherein the treatment fluid is supplied into the prechamber of the cascade source~~[[,]]~~ near the ~~cascade source~~ cathode ~~present in the prechamber~~.

9. (Currently Amended) A method according to claim 6, wherein, between the ~~plasma~~ cascade source and the substrate surface, ~~[[the]]~~ a treatment fluid supply source is arranged to add the treatment fluid to the plasma.

10. (Currently Amended) A method according to claim 9 wherein, during the treatment, the treatment fluid supply source is moved relative to the substrate surface, and the movement of the treatment fluid supply source is related to the movement of ~~plasma~~ cascade source.

11. (Currently Amended) A method according to claim 1, wherein the ~~plasma~~ cascade source is moved such that each part of the substrate surface undergoes substantially the same extent of treatment~~[[, in]]~~ such that each part of the substrate surface ~~is reached by~~ receives the same amount of plasma.

12. (Currently Amended) A method according to claim 1, wherein the plasma cascade source is moved such that at least a first part of the substrate surface undergoes substantially a greater extent of treatment than a second part of the substrate surface[[, in]] such that the first surface part is reached by receives a larger amount of plasma than the second surface part.

13. (Cancelled)

14. (Currently Amended) A method according to claim 1, wherein said substrate is provided with at least one cavity at least partly bounded by said substrate surface, wherein, during treatment, at least a part of said plasma cascade source ~~and/or at least said treatment fluid supply source~~ is ~~and/or has been~~ introduced into said substrate cavity.

15. (Currently Amended) A method according to claim 1, wherein, during the treatment, said plasma cascade source ~~and/or treatment fluid supply source~~ carries out at least one three-dimensional movement.

16. (Withdrawn) An apparatus for treating a surface of a substrate, comprising: a process chamber and a plasma source, the plasma source being a cascade source, wherein cathode of the cascade source is present in a prechamber in which, during use, a relatively high pressure prevails compared to a relatively low pressure, prevailing in the process chamber, wherein, via a channel bounded by mutually electrically insulated cascade plates, the prechamber opens into the process chamber, such that, during use, the plasma extends via the channel into the process chamber, and the plasma source and/or a treatment fluid supply source is movably arranged.

17. (Withdrawn) An apparatus according to claim 16, wherein a resilient element is arranged to exert a spring force on the plasma source such that, under the influence of the

spring force, the plasma source can move to a starting position when the plasma source is not in the starting position.

18. (Withdrawn) An apparatus according to claim 16 wherein, between the plasma source and the process chamber, a flexible, substantially gastight sealing is provided.

19. (Withdrawn) An apparatus according to claim 1, wherein the apparatus is provided with a first housing part and a second housing part, wherein the plasma source is provided on the first housing part, and the first housing part is coupled to the second housing part in a substantially gastight and movable manner.

20. (Withdrawn) An apparatus according to claim 16, wherein the apparatus is provided with a motor configured to move the plasma source.

21. (Withdrawn) An apparatus according to claim 16, wherein the plasma source is arranged so as to be rotatable about a first rotation axis and a second rotation axis [[[15]]], wherein the first and second rotation axes each extend substantially parallel to the substrate surface and in a different direction.

22. (Withdrawn) An apparatus according to claim 16, wherein the process chamber is provided with the treatment fluid supply source to add a treatment fluid to the plasma.

23. (Withdrawn) An apparatus according to claim 22, wherein treatment fluid supply source is arranged to add treatment fluid to the plasma extending via the channel into the process chamber.

24. (Withdrawn) An apparatus according to claim 22 wherein the treatment fluid supply source is provided with a plasma passage through which the plasma extends during use.
25. (Withdrawn) An apparatus according to claim 22, wherein the treatment fluid supply source is movably arranged in the process chamber.
26. (Withdrawn) An apparatus according to claim 25, wherein the treatment fluid supply source is coupled to the plasma source, such that the movement of the treatment fluid supply source is related to the movement of the plasma source.
27. (Withdrawn) An apparatus according to claim 16, wherein said plasma source is mounted on the process chamber.
28. (Withdrawn) An apparatus according to claim 16, wherein said plasma source and/or said treatment fluid supply source are arranged to carry out one or more three-dimensional movements.
29. (Withdrawn) An apparatus according to claim 16, wherein the apparatus is arranged to carry out PECVD.
30. (Withdrawn) A substrate provided with a surface with at least one layer of material deposited on it, wherein the layer has been deposited using a method according to claim 1.
31. (Previously Presented) A method according to claim 6, wherein the treatment fluid is added to the plasma for the purpose of PECVD.

32. (Withdrawn) An apparatus according to claim 19, wherein first housing part is coupled to the second housing part by a thin-walled stainless-steel bellows.